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Abstract of the Invention

A high-pressure, moving-piston pulse engine (modified HIPPE) 10 is used to produce one or a series of pulses of acoustic energy in a marine environment for acoustic communication, detection, classification or jamming. The HIPPE engine 10 is modified by removing its nozzle and replacing it with a pipe 58 which is fastened to the exit of the combustion chamber 56. A gas disperser 60 is affixed to the engine 10 or pipe 58 so that a portion of the disperser 60 extends inside of the pipe 58 the inner surface of which is spaced from the outer surface of the disperser 60 so that an annular void is formed between the pipe 58 and the disperser, through which void the combustion gases can be vented. The axial course of the gases is changed by disperser 60 to a controlled course with velocity vectors transverse to the pipe axis. The engine 10 is placed in a body of water 14 at depth or near the surface and operated either manually or automatically. The pulses can conform to a pulse code for transmitting a pulse-coded message from a ship 16 to a submarine, for example.